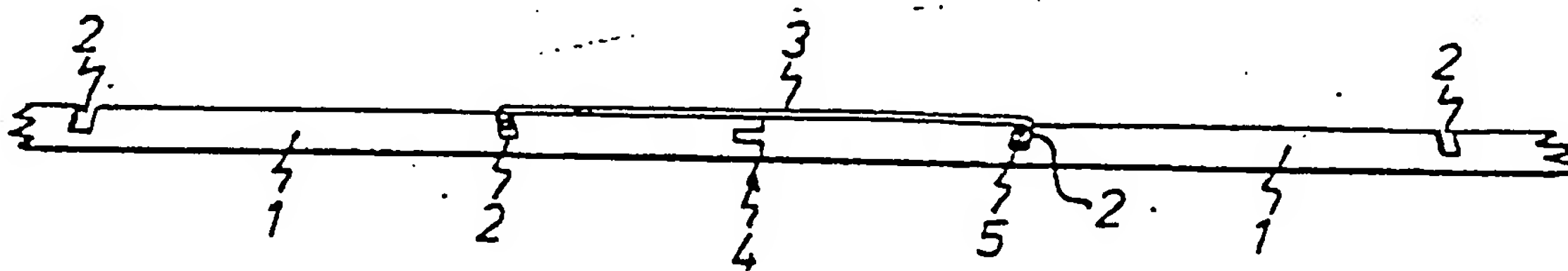




## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification <sup>3</sup> :  E04F 15/14	A1	(11) International Publication Number: WO 84/ 02155  (43) International Publication Date: 7 June 1984 (07.06.84)
<p>(21) International Application Number: PCT/SE83/00423</p> <p>(22) International Filing Date: 2 December 1983 (02.12.83)</p> <p>(31) Priority Application Number: 8206934-5</p> <p>(32) Priority Date: 3 December 1982 (03.12.82)</p> <p>(33) Priority Country: SE</p> <p>(71)(72) Applicants and Inventors: CARLSSON, Jan [SE/SE]; S:t Sigfridsvägen 50, S-382 00 Nybro (SE). BJÖRKLUND, Christer [SE/SE]; Brunnsvägen 19, S-382 00 Nybro (SE).</p> <p>(74) Agents: WIKLUND, Erik et al.; Awapatent AB, Box 5117, S-200 71 Malmö (SE).</p> <p>(81) Designated States: AT (European patent), BE (European patent), CH (European patent), DE (European patent), DK, FI, FR (European patent), GB (European patent), LU (European patent), NL (European patent), NO, SE (European patent), US.</p>		<p>Published</p> <p><i>With international search report.</i></p> <p><i>In English translation (filed in Swedish).</i></p>

(54) Title: DEVICE FOR JOINING TOGETHER BUILDING BOARDS, SUCH AS FLOOR BOARDS



(57) Abstract

Device for joining together building boards, such as floor boards, edge surface to edge surface. It comprises a groove (2) in the rear side of each board (1), the groove running over the entire length of the board parallel to its jointing edge, and a substantially U-shaped spring device (3), the legs (5) of which are adapted each to engage the groove of one board, and which is prestressed so that, upon said engagement, the boards are tightly clamped together edge surface to edge surface.

*FOR THE PURPOSES OF INFORMATION ONLY*

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AT	Austria	LI	Liechtenstein
AU	Australia	LX	Sri Lanka
BE	Belgium	LU	Luxembourg
BR	Brazil	MC	Monaco
CF	Central African Republic	MG	Madagascar
CG	Congo	MR	Mauritania
CH	Switzerland	MW	Malawi
CM	Cameroon	NL	Netherlands
DE	Germany, Federal Republic of	NO	Norway
DK	Denmark	RO	Romania
FI	Finland	SE	Sweden
FR	France	SN	Senegal
GA	Gabon	SU	Soviet Union
GB	United Kingdom	TD	Chad
HU	Hungary	TG	Togo
JP	Japan	US	United States of America
KP	Democratic People's Republic of Korea		

DEVICE FOR JOINING TOGETHER BUILDING BOARDS, SUCH  
AS FLOOR BOARDS

The present invention relates to a device for joining together building boards, such as floor boards.

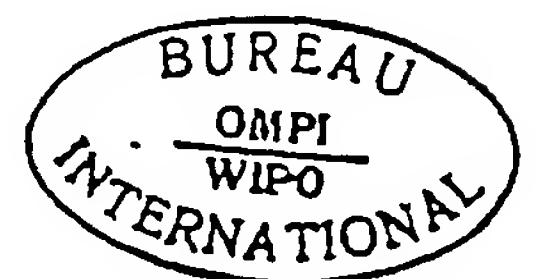
For tight jointing of building boards, especially wooden floor boards, tongue-and-groove joints and glue  
5 are normally used. The laying of such boards is time-consuming because glue application is indispensable if a tight joint is to be achieved and, furthermore, the glued boards, once they are laid, cannot easily be taken up again.

10 The object of the invention is to provide a jointing device allowing simple and convenient laying of boards and also rapid dislodgement and exchange of, for example, a damaged board.

According to the invention, this is achieved by  
15 means of a device which is characterised in that it comprises a groove in the rear side of each board to be jointed, the groove running over the entire length of the board parallel to its jointing edge surface, and a substantially U-shaped spring device, the legs  
20 of which are adapted each to engage the groove of one board, and which is prestressed so that, upon said engagement, the boards are tightly clamped together edge surface to edge surface.

The invention will be described in more detail  
25 below, reference being made to the accompanying drawing, in which Fig. 1 shows partly broken boards from behind, jointed by means of the device according to the invention; Fig. 2 shows the arrangement of Fig. 1 as seen from the side, and Fig. 3 shows a U-shaped spring element.  
30

The wooden boards 1 are provided in their bottom side with milled grooves 2 running parallel to and over the entire length of the board edge surface, abutting



2

against one another in the assembled board arrangement,  
i.e. the floor. The cross section of the grooves 2 pre-  
ferably is inclined towards these edges from the rear  
side of the boards. The legs of a U-shaped spring band,  
5 made of e.g. steel and having a substantially flat web,  
engage each with one groove 2 of each board. The spring  
is prestressed such that the legs thereof tightly com-  
press the boards edge surface to edge surface. In addi-  
tion, the board edge surface preferably form a tong-  
10 and-groove joint 4.

One leg 5 of the spring 3 preferably is so designed  
that its cross section is complementary to the inclined  
cross section of the grooves. During laying of the boards,  
this leg is first inserted in its groove in one board,  
15 and then the other leg, which also is directed inwardly,  
is snapped into its groove in the other board. As will  
appear especially from Fig. 2, the web of the spring  
band is in contact with the rear side of the jointed  
boards.

20 Several such spring devices may be arranged in  
spaced apart relation along the boards.

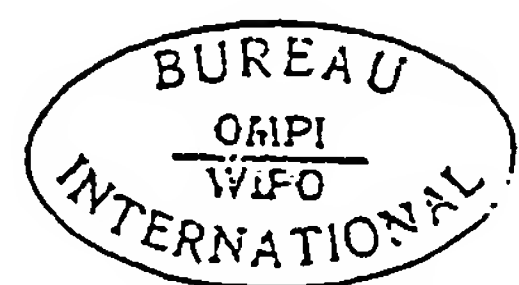
It will be evident that the invention allows a  
tight jointing of boards while making the joint arrange-  
ment invisible on the upper face of the floor.



## CLAIMS

1. Device for joining together building boards, such as floor boards, edge surface to edge surface, characterised in that it comprises a groove (2) in the rear side of each board (1) to be jointed, the groove running over the entire length of the board parallel to its jointing edge surface, and a substantially U-shaped spring device (3), the legs (5) of which are adapted each to engage the groove of one board, and which is prestressed so that, upon said engagement, the boards are tightly clamped together edge surface to edge surface.

2. Device according to claim 1, characterised in that the cross section of the groove (2) is inclined towards the said edge surface, and that the spring device (3) is band-shaped and the cross section of one leg (5) is complementary to the cross section of the groove (2).



1/1

Fig.1

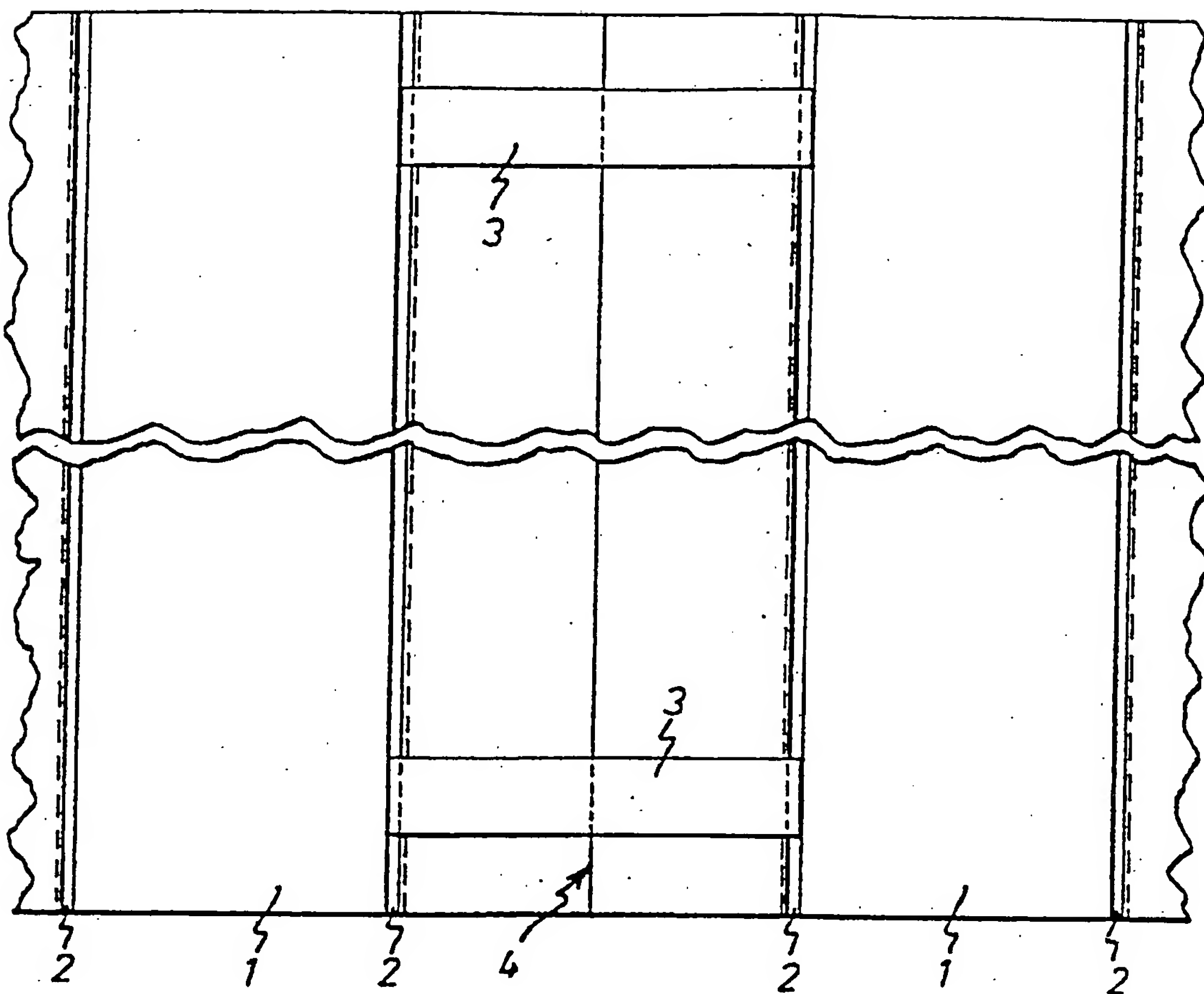


Fig.2

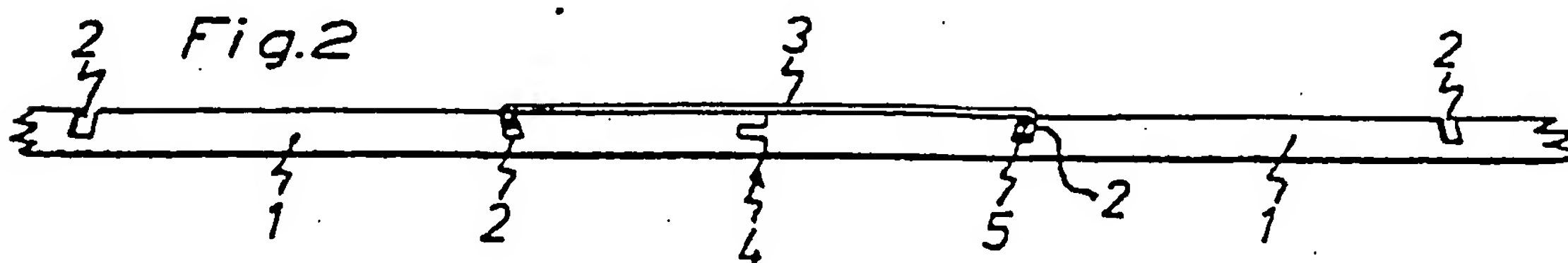
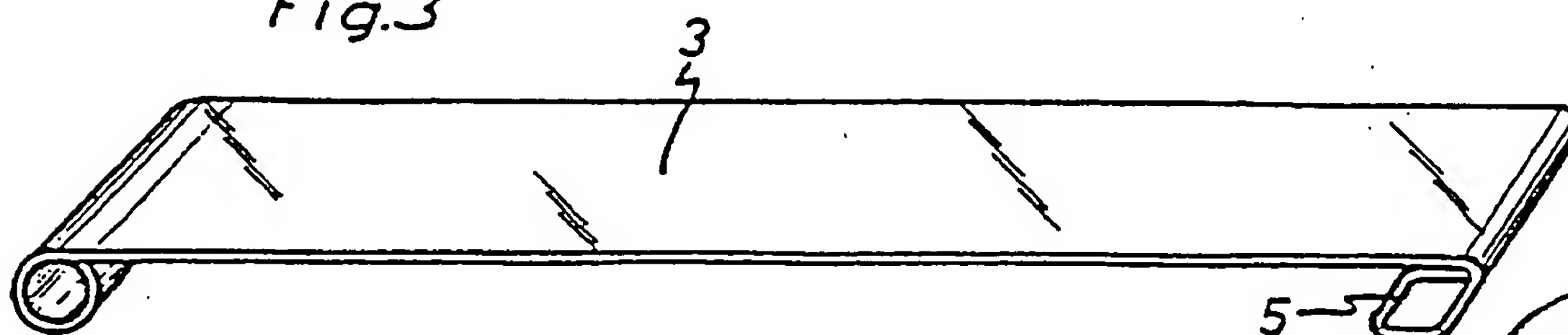


Fig.3



# INTERNATIONAL SEARCH REPORT

International Application No PCT/SE83/00423

<b>I. CLASSIFICATION OF SUBJECT MATTER</b> (If several classification symbols apply, indicate all) <sup>1</sup> According to International Patent Classification (IPC) or to both National Classification and IPC <sup>3</sup>		
E 04 F 15/14		
<b>II. FIELDS SEARCHED</b>		
Minimum Documentation Searched <sup>4</sup>		
Classification System	Classification Symbols	
IPC 3 US C1	E 04 F 15/14, E 04 C 2/10-2/14 52: 511, 313	
Documentation Searched other than Minimum Documentation to the extent that such Documents are included in the Fields Searched <sup>5</sup>		
SE, NO, DK, FI classes as above		
<b>III. DOCUMENTS CONSIDERED TO BE RELEVANT</b> <sup>11</sup>		
Category <sup>6</sup>	Citation of Document, <sup>14</sup> with indication, where appropriate, of the relevant passages <sup>17</sup>	Relevant to Claim No. <sup>18</sup>
X	SE, B, 372 051 (RY AB) 23 May 1973	1, 2
Y	FR, B, 2 441 370 (ORENGO GILBERT) 30 October 1978	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><sup>*</sup> Special categories of cited documents: <sup>16</sup></p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> </div> <div style="width: 45%;"> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"Δ" document member of the same patent family</p> </div> </div>		
<b>IV. CERTIFICATION</b>		
Date of the Actual Completion of the International Search <sup>1</sup>		Date of Mailing of this International Search Report <sup>1</sup>
1984-02-16		1984-03-02
International Searching Authority <sup>1</sup>		Signature of Authorized Officer <sup>19</sup>
Swedish Patent Office		Leif Törn